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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/810,853

03/29/2004

Stephen R. Forrest

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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT

PAPER NUMBER

1792

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/810,853	Applicant(s) FORREST ET AL.	
	Examiner YEWEBDAR T. TADESSE	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-33 is/are pending in the application.
- 4a) Of the above claim(s) 5,11,12 and 15-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-10 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Valaskovic et al (US 5,788,166).

Regarding claims 1 and 7-8, Valaskovic et al discloses (see Fig 3) a device for vapor phase deposition of a material onto a substrate (see column 1, lines 8-10, for device disclosed by Valaskovic transforming the coating material to a gas phase) comprising a base (42), a metal or metal oxide cladding coating (layer 44) on the base; a reservoir (capillary with wall 43) defined by the base and the cladding, wherein the reservoir has an opening (tip 22); wherein the largest dimension of the opening is less than about 200 nm or 100 nm or 60 nm (see column 4, lines 55-63) and the material is disposed within the reservoir.

As to claim 2, in Valaskovic et al a volume is removed from the base inside the cladding.

With respect to claim 4, in Valaskovic et al the material is capable of being an organic material.

As to claim 6, Valaskovic et al discloses gold cladding (see column 4, line 65).

Regarding claim 9, Valaskovic et al discloses a position control apparatus (items 14 and 20; see Fig 1) attached to the base (12).

As to claim 13, Valaskovic et al discloses (see Fig 2) an energy application apparatus (power supply through electrical contact 30) coupled to the base.

3. Claims 1-2, 4, 6-8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsieh (US 5,969,353).

As to claims 1 and 7-8, Hsieh discloses (see Fig 1) a device for vapor phase deposition of a material onto a substrate (electrospraying device transforming the coating material to a gas phase) comprising a base (tip 50), a metal or metal oxide cladding coating on the base; a reservoir defined by the base and the cladding (see Fig 1 and column 3, lines 6-9), wherein the reservoir has an opening (63); wherein the largest dimension of the opening is less than about 200 nm or 100 nm or 60 nm (see column 3, lines 1-5) and the material is disposed within the reservoir .

As to claim 2, in Hsieh a volume is removed from the base inside the cladding.

With respect to claim 4, in Hsieh the material is capable of being an organic material.

As to claim 6, Hsieh teaches gold cladding (see column 3, line 51).

As to claim 13, Hsieh discloses (see Fig 1) an energy application apparatus (73) coupled to the base.

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4. Claims 1-2, 4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor et al (US 6,941,033).

Regarding claims 1 and 7-8, Taylor et al discloses (see Fig 1) a device for vapor phase deposition of a material onto a substrate (see column 2, lines 53-61; Taylor et al's device handling fluid inside the hole of the device) comprising a base (fiber core), a metal or metal oxide cladding coating on the base; a reservoir (hole 14) defined by the base and the cladding, wherein the reservoir has an opening; and wherein the largest dimension of the opening is less than about 200 nm or 100 nm or 60 nm (see column 7, line 33 and claim 23) and the material is disposed within the reservoir.

As to claim 2, in Taylor et al a volume is removed from the base inside the cladding.

With respect to claim 4, in Taylor et al the material is capable of being an organic material.

As to claim 6, Taylor et al discloses gold cladding (see column 8, line 65).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valaskovic et al (US 5,788,166) as applied to claim 9 and further in view of Iyoki (2002/0076184).

Valaskovic et al discloses a device having a position control apparatus (see Fig 1). A position control apparatus comprising a piezoelectric component is not taught in Valaskovic et al. However, it is well known in the art to use a piezoelectric element to control the positioning of a device relative to the target such as shown by Iyoki (see items 4 and 22 of Fig 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a piezoelectric component to adjust the positioning of the device relative to the target.

8. Claims 9 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al (US 6,941,033) as applied to claim 1 and further in view of Iyoki (2002/0076184).

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9. Taylor et al discloses a base comprising optical fiber and an energy (laser) application to an optical fiber (fiber probe) of the base (hole 12) to initiate the uptake of material (see column 2, lines 53-56). However, a light source optically connected to the optical fiber and position control apparatus comprising a piezoelectric component are not taught in Taylor et al. Yet, Iyoki discloses (see Fig 3) a piezoelectric component (4 and 22) for controlling the positioning of a tip of optical fiber and a laser source (53) in communication with the optical fiber (see Fig 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a laser source in Taylor et al to detect the intensity of the light. It would have also been obvious to one of ordinary skill in the art at the time the invention was made to include a piezoelectric component to adjust the positioning of the device relative to the target.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wood et al (US 6,670,607) teaches nano-spray emitter using laser pulling techniques (see column 4, lines 30-42).

Response to Arguments

11. Applicant's arguments filed 12/08/2008 have been fully considered but they are not persuasive. Applicants contend that none of the references cited discloses a device for vapor phase deposition of material on the substrate; as explained in the rejection above. The devices disclosed by Valaskovic and Hsieh disclose devices in which solutions are transformed to gas phase (which is considered to be vapor). Applicants' disclosure teaches (see paragraph 20, pages 7-8) wherein energy is applied to the

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deposition apparatus so material is ejected onto a substrate in similar manner as Valaskovic and Hsieh's devices wherein high voltage is applied to electrospray the material onto the substrate in a gas (vapor) phase. Taylor et al also discloses a device handling fluid (liquid or gas) delivery of material.

It is noted that the limitations added to claim 1 do not add structure to the claimed apparatus. The added limitations are intended use of the apparatus.

Additionally, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus shows all of the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) Furthermore, "expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." Ex parte Thibault, 164 USPQ 666,667 (Bd. App. 1969). Thus, the "inclusion of material or article worked upon does not impart patentability to the claims." In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 (USPQ 458, 459 (CCPA 1963)). In this case, the inclusion of the material does not impart patentability to the claims.

In any event the references cited above disclose a gas/vapor phase deposition of the materials.

For at least the reasons described above the examiner maintains the rejections of Valaskovic, Hsieh and Taylor et al alone and/or in combination with other.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YEWEBDAR T. TADESSE whose telephone number is (571)272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yewebdar T Tadesse/
Primary Examiner, Art Unit 1792